

*US Appl. No. 09/936499*  
*Docket No. MWH-0031US*

**Amendments to Claims**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): A method for predicting an individual's bronchodilating response to an agonist of  $\beta_2$ AR, which comprises determining the individual's genotype for the +491PS, wherein a heterozygous C/T genotype or a homozygous T/T genotype indicates the individual is likely to exhibit a poor bronchodilating response to the agonist, wherein the agonist is selected from the group consisting of salmeterol, albuterol, metaproterenol, terbutaline and formoterol.

Claim 2 (canceled)

Claim 3 (original): The method of claim 12, wherein the agonist is salmeterol.

Claim 4 (original): The method of claim 23, wherein the individual suffers from asthma or COPD.

Claim 5 (currently amended): The method of claim 1, wherein determining the individual's patient's genotype comprises isolating from the individual a nucleic acid mixture comprising the two copies of the  $\beta_2$ AR gene, or a fragment thereof, that are present in the individual and determining the identity of the nucleotide pair at a position corresponding to the +491PS in the two copies in order to assign a  $\beta_2$ AR genotype to the individual.

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Claim 6 (withdrawn): A method for predicting a patient's bronchodilating response to an agonist of  $\beta_2$ AR, which comprises assaying a sample from the patient for expression of the Ile164  $\beta_2$ AR variant, wherein presence of the Ile164  $\beta_2$ AR variant indicates the patient is likely to exhibit a poor bronchodilating response to the agonist.

Claim 7 (withdrawn): The method of claim 6, wherein the agonist is selected from the group consisting of salmeterol, albuterol, metaproterenol, terbutaline and formoterol.

Claim 8 (withdrawn): The method of claim 7, wherein the agonist is salmeterol.

Claim 9 (withdrawn): The method of claim 8, wherein the individual is suffering from asthma or COPD.

Claim 10 (withdrawn): The method of claim 6, wherein the assaying step comprises contacting the sample with an antibody specific for the Ile164  $\beta_2$ AR variant.

Claim 11 (withdrawn): A method for treating a patient suffering from asthma or COPD, which comprises

determining the patient's genotype for the +491PS and

making a treatment decision based on the genotype,

wherein if the patient has a heterozygous C/T genotype or a homozygous T/T genotype, the treatment decision is selected from the group consisting of:

(a) prescribing a higher dose of a  $\beta$ -agonist than typically indicated for individuals having similar weight and symptoms;

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- (b) prescribing more frequent doses of a  $\beta$ -agonist than typically indicated for individuals having similar weight and symptoms;
- (c) prescribing both a higher dose and more frequent doses of a  $\beta$ -agonist than typically indicated for individuals having similar weight and symptoms;
- (d) not prescribing a  $\beta$ -agonist; and
- (e) prescribing a  $\beta$ -agonist in conjunction with another bronchodilating therapy.

Claim 12 (withdrawn): The method of claim 11, wherein the agonist is selected from the group consisting of salmeterol, albuterol, metaproterenol, terbutaline and formoterol.

Claim 13 (withdrawn): The method of claim 12, wherein the agonist is salmeterol.

Claim 14 (withdrawn): The method of claim 11, wherein determining the patient's genotype comprises isolating from the individual a nucleic acid mixture comprising the two copies of the  $\beta_2$ AR gene, or a fragment thereof, that are present in the individual and determining the identity of the nucleotide pair at a position corresponding to the +491PS in the two copies in order to assign a  $\beta_2$ AR genotype to the individual.